NUTRICIÓN

L-CARNITINE INCREASES BODY LEAN IN ADULT DOGS AND CATS

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Comunicación

Objectives of the study

L-carnitine has been shown to be a repartitioning agent (i.e., setting metabolism toward more protein and less fat accretion) in animals used for food production. The purpose of this study was to determine the effects on body composition repartitioning (i.e., increasing lean body mass) of added dietary L-carnitine in adult dogs and cats.

Material and Methods

Two studies were performed; one in adult dogs (16 beagle dogs, age 1-7 years, BCS 3 using 5 point scale) and one in adult cats (16 domestic short hair cats, age 1-7 years, BCS 3 using 5 point scale). In each study, animals were randomly assigned to one of the two dietary treatment groups. The study foods were specifically formulated for this study to be complete and balanced for adult dogs or cats. The Test food was manufactured to contain L-carnitine (300 ppm, canine; 500 ppm, feline) and the Control food was not (<30 ppm recovered). The study foods were the sole source of nutrients except for water. Feeding guidelines were calculated on resting energy requirements to ensure safe and effective weight loss to a BCS of 3 using a 5 point scale. Initial and final body composition was measured through DXA analysis. Throughout the duration of the 6 month study, body weights were monitored weekly, and food intake recorded daily. Additionally, dogs and cats received routine grooming and had daily opportunities for socialization with other dogs (for the dogs), cats (for the cats) and people. Data were analyzed for treatment effects using a general linear model analysis of variance with species and L-carnitine as independent variables.

Results

The L-Carnitine enriched foods had no affect on food intake in the dog or cat study ($p>0.05$ vs Control food intake) and all animals maintained body weight. However, those dogs and cats consuming the Test food significantly gained lean body mass ($p<0.01$) while those consuming the Control food did not ($p>0.05$). Additionally, both dogs and cats consuming the Test food lost body fat ($p<0.05$) while those on the Control food did not ($p>0.05$).

Conclusions

The results of these studies, one in the dog and one in the cat, demonstrate the role of L-carnitine supplemented foods to enhance lean body mass.